

[54] **ELECTROCHEMICAL GENERATION OF
FIELD DESORPTION EMITTERS**

[75] Inventors: **Maurice M. Bursey**, Chapel Hill,
N.C.; **Deborah M. Hinton**,
Champaign, Ill.; **Martin C. Sammons**,
Cincinnati, Ohio; **R. Mark**
Wightman, Lawrence, Kans.

[73] Assignee: **E. I. Du Pont de Nemours and
Company**, Wilmington, Del.

[21] Appl. No.: **686,646**

[22] Filed: **May 13, 1976**

Related U.S. Application Data

[62] Division of Ser. No. 624,102, Oct. 22, 1975.

[51] Int. Cl.² **H01J 1/16; H01J 19/10**

[52] U.S. Cl. **313/336; 428/628;
428/567**

[58] Field of Search **313/336, 182, 351;
29/198, 199, 191.2, 193.5, 193, 191.6**

[56]

References Cited

U.S. PATENT DOCUMENTS

2,116,927	5/1938	Germer	204/23
3,323,951	6/1967	Kreiselmaier	204/10
3,684,480	8/1972	Louzos	204/10
3,801,413	4/1974	Block et al.	204/18 R
3,843,335	10/1974	Holmen	29/194
3,890,209	6/1975	Shigeta	29/191.2
3,982,148	9/1976	Kaplan	313/330

FOREIGN PATENT DOCUMENTS

298,728	5/1917	Germany	204/23
---------	--------	---------------	--------

Primary Examiner—Arthur J. Steiner

[57]

ABSTRACT

An electrochemically generated field desorption emitter for use in mass spectrometry, and a process for forming such an emitter by immersing a metal support, as a first electrode, and a second electrode in an electrolytic liquid mixture having appropriate concentration of a metal compound, and applying a plurality of short duration, electrical pulses between the electrodes. The emitter so formed comprises an elongated metal support having a plurality of metal dendrites extending in a generally radially outwardly direction therefrom.

2 Claims, 9 Drawing Figures